

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussions is respectfully requested.

Claims 1-60 are presently pending in this application.

In the outstanding Office Action, Claims 1-7, 9-13, 16-21, 24-32, 35-40 and 44-60 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kakii et al. (U.S. Patent 5,764,833) in view of Nakanishi et al. (U.S. Patent 6,655,856); and Claims 8, 14, 15, 22, 23, 33, 34 and 41-43 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kakii et al. in view of Nakanishi et al., in further view of Porter et al. (U.S. Publication 2004/0228601).

Briefly recapitulating, Claim 1 is directed to an optoelectronic module and includes an optical fiber block, optical fibers having fiber facets terminating on an end face of the optical fiber block, a submount disposed adjacent to the end face of the optical fiber block, an edge emitting laser diode array disposed on the submount in optical alignment with the fiber facets of the optical fibers, and a cap disposed on the submount and detachably adjoining the end face of the optical fiber block such that the cap encloses the edge emitting laser diode array and the fiber facets therein. Claim 10 is directed to an optoelectronic module and includes an optical fiber block; optical fibers having fiber facets terminating on an end face of the optical fiber block; a submount having one of a surface emitting laser diode a photo diode array disposed thereon; and a spacer interposed between the submount and the end face such that the spacer encloses the diode array and the fiber facets.

An advantage of such a cap and a spacer includes that the optical fiber block and the submount can be moved against each other in any directions for accurate alignment of the diode array and the fiber facets, even after the optical fiber block and the submount are mounted on a substrate.

The outstanding Office Action states that “the features upon which applicant relies (i.e., Nakanishi et al. would not allow further movement or alignment of the optical fiber and the LED once mounted upon the substrate) are not recited in the rejected claim(s).”

However, Applicants respectfully submit that Nakanishi et al. teaches neither “a cap disposed on said submount and detachably adjoining said end face of said optical fiber block such that said cap encloses said edge emitting laser diode array and said fiber facets therein” as recited in Claim 1, nor “a spacer interposed between said submount and said end face such that said spacer encloses said diode array and said fiber facets” as recited in Claim 10, and because Nakanishi et al. simply shows that an optical fiber 34 and an LED 30 mounted on a single substrate 29 and that the substrate 29 is mounted inside an inner container 26 for a transparent resin 35 and an outer container 25 for a fixing resin 36 formed on a common bottom plate 27, the structure of the Nakanishi et al. module would not allow any further movement or alignment of the optical fiber 34 and the LED 30 once mounted on the substrate 29. Furthermore, according to the structure as recited in Claim 1, the enclosure of the edge emitting laser diode array and the fiber facets is accomplished by the cap, submount and optical fiber block, whereas the structure of the Nakanishi et al. module entirely encloses the single substrate 29 mounted with the optical fiber 34 and the LED 30 inside the outer container 25 and the top plate 37. Hence, it is respectfully submitted that the structure recited in Claims 1 and 10 are clearly distinguishable from Nakanishi et al.

As discussed in the previous response, Kakii et al. and Porter et al. also fail to teach or suggest “a cap disposed on said submount and detachably adjoining said end face of said optical fiber block such that said cap encloses said edge emitting laser diode array and said fiber facets therein” as recited in Claim 1, or “a spacer interposed between said submount and said end face such that said spacer encloses said diode array and said fiber facets” as recited in Claim 10. Kakii et al., on the other hand, shows an optical fiber array having an optical

coupling end face to be optically coupled to another optical line. That is, the optical fiber array (F) is bonded to the parallel optical transmission module (M), where the case 31 is provided at the exterior of the optical module (M), and the optical fiber array (F) is bonded to the case 31, thereby forming the enclosure with optical module (M) and the case 31. Porter et al. is cited in the Office Action simply to address a hole 36 for injecting resin into a chamber 37. Thus, Applicants respectfully submit that the structure recited in Claims 1 and 10 are clearly distinguishable from both Kakii et al. and Porter et al.

Because none of Kakii et al., Nakanishi et al. and Porter et al. discloses the cap as recited in Claim 1 and the spacer recited in Claim 10, their teachings even combined are not believed to render the structures recited in Claims 1 and 10 obvious.

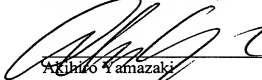
Likewise, Claims 18, 25, 44 and 54 recite "providing a cap configured to be disposed on said submount and adjoin to said end face of said optical fiber block such that said cap encloses said laser diode array and said fiber facet array therein," "providing a containment dam configured to be interposed between said submount and said end face such that said containment dam encloses said diode array and said fiber facets," "a chamber forming device configured to form a chamber with said submount and said end face of said block such that said chamber forming device encloses said diode array and said facets," and "providing a containment dam configured to be disposed on said submount and adjoin said end face of said optical fiber block such that said containment dam encloses said edge emitting laser diode array and said fiber facets therein, said containment dam having a bottom surface and at least one side surface," respectively, and these independent claims are believed to include subject matter substantially similar to what are recited in Claims 1 and 10 to the extent discussed above. Thus, Claims 18, 25, 44 and 54 are also believed to be distinguishable from Kakii et al., Nakanishi et al. and Porter et al.

For the foregoing reasons, Claims 1, 10, 18, 25, 44 and 54 are believed to be allowable. Furthermore, since Claims 2-9, 11-17, 19-24, 26-43, 45-53 and 55-60 depend directly or indirectly from one of Claims 1, 10, 18, 25, 44 and 54, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 2-9, 11-17, 19-24, 26-43, 45-53 and 55-60 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Akihiro Yamazaki', is written over a horizontal line.

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